

DOCKET NUMBER: 95176694-003001/64228-00003USPT  
PATENT**Proposed Claim Amendments**

For: Compositions and Methods of Crop Protection  
Applicant: Robert K. O'Leary  
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1. (allowed) A system for treating plants containing biopolymers, comprising:
  - one or more repellent chemicals; and
  - one or more polymers, the polymers forming a matrix with the biopolymers and the repellent chemicals to permit sustained release of the chemicals, and
  - a silver ion forming an ionic complex with the matrix.
2. (allowed) The system of claim 1, wherein the one or more repellent chemicals comprise at least one of synthetic organic, inorganic, biochemical, pharmacological and toxicological substances.
3. **(proposed amendment) The system of claim 2, wherein at least one of the one or more repellent chemicals is derived from marine life, insect life, mammalian tissues, or cellular life forms, ~~or artificial and natural life forms.~~**
4. (allowed) The system of claim 1, wherein the one or more repellent chemicals comprise at least one plant-derived material.
5. (allowed) The system of claim 1, wherein the one or more repellent chemicals are in the form of a powder and the one or more polymers is are in the form of a liquid.
6. (allowed) The system of claim 1, wherein the one or more polymers comprise naturally occurring hydrophilic polymers.
7. (allowed) The system of claim 6, wherein the hydrophilic polymers comprise at least one of collagen, gelatin, dextrin and polypeptides.

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8-9. (canceled)

10. (allowed) The system of claim 1, wherein the one or more polymers comprise synthetic polymers.

11. (allowed) The system of claim 10, wherein the synthetic polymers comprise at least one of self-assembled monolayers and a water insoluble amphiphilic polycation molecules.

12. (allowed) **The system of claim 1, wherein the one or more polymers comprise one or more natural, water-soluble polymers or resins selected from the group consisting of gums, guar gums, xanthan gums, starches, dextrans, proteins, celluloses, polysaccharides, dextrans, carrageenan, agar, alginates, gelatin, casein, pectin, soy bean, lignites, tannins, and deoxyribonucleic acid and animal derivatives.**

13. (allowed) The system of claim 1, wherein the one or more polymers comprise one or more synthetic, water-soluble polymers selected from the group consisting of polyvinyl alcohol, hydroxypropyl cellulose, maleic anhydride copolymers, polyacrylates, polyimines, polyethylene glycols, polyvinyl pyrrolidone, hydroxyethyl cellulose, hydroxypropylmethylcellulose, cellulose ethers, polyquaternary amines, modified polyesters, sodium carboxymethyl cellulose, hydrogels, acrylamide co-polymers, sorbitan esters and derivatives, polymeric surfactants, hydrocolloids, cationic polymers, anionic/nonionic polymers, and coagulating agents.

14. (allowed) The system of claim 1, wherein the one or more polymers comprise a bioerodible polymers.

15. (allowed) The system of claim 1, wherein the one or more polymers comprise an absorbable polymers.

16. (allowed) The system of claim 1, wherein the one or more polymers comprise a controlled

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release polymers.

17. (allowed) The system of claim 1, wherein the one or more polymers comprise one or more high molecular weight, hydrophilic polymers.

18. (allowed) The system of claim 1, wherein the one or more polymers comprise one or more high molecular weight, resorbable polymers.

19. (allowed) The system of claim 1, wherein the one or more polymers comprise one or more hydrolytically and enzymatically degradable polymers.

20. (allowed) The system of claim 1, wherein the one or more polymers comprise at least one of carboxy methyl cellulose, a polyorthoester, a pluronic polymer, and a lactide-glycolide co-polymer.

21. (allowed) The system of claim 1, wherein the one or more polymers comprise one or more of methyl cellulose and carboxy methyl cellulose.

22. (allowed) The system of claim 1, wherein the one or more polymers comprise pluronic F-127.

23. (allowed) The system of claim 1, wherein the one or more repellent chemicals comprise one or more alkaloids isolated from one or more members of the family Amaryllidaceae and the family Liliaceae.

24. (allowed) The system of claim 1, wherein the one or more repellent chemicals comprise one or more alkaloids isolated from one or more members of the genus Narcissus.

25- 48. (withdrawn)

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49. (allowed) A system for treating plants containing biopolymers, comprising:  
one or more repellent chemicals; and  
one or more polymers, the polymers forming a matrix with the biopolymers and the repellent chemicals to permit sustained release of the repellent chemicals, wherein the one or more polymers comprise a pluronic polymer.
50. (allowed) The system of claim 49, wherein the one or more repellent chemicals comprise at least one of synthetic organic, inorganic, biochemical, pharmacological and toxicological substances.
51. (proposed amendment) The system of claim 50, wherein at least one of the one or more repellent chemicals is derived from at least one of marine life, insect life, mammalian tissues, or cellular life forms, ~~or artificial and natural life forms~~.
52. (allowed) The system of claim 49, wherein the one or more repellent chemicals comprise at least one plant-derived material.
53. (allowed) The system of claim 49, wherein the one or more repellent chemicals are in the form of a powder and the one or more polymers are in the form of a liquid.
54. (proposed amendment) The system of claim 49, wherein the one or more polymers further comprise at least one naturally occurring hydrophilic polymer.
55. The system of claim 54, wherein the hydrophilic polymer is collagen, gelatin, dextrin or a polypeptide.
56. (objected to) The system of claim 49, wherein at least one of the one or more polymers comprises a charged ion, said charged ion forming an ionic complex with the one or more repellent chemical.

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57. (objected to) The system of claim 56, wherein the charged ion is a silver ion.

58. (proposed amendment) The system of claim 49, wherein the one or more polymers further comprise at least one synthetic polymer.

59. The system of claim 58, wherein the synthetic polymer is selected from the group consisting of self-assembled monolayers and water insoluble amphiphilic polycation molecules.

60. (proposed amendment) The system of claim 49, wherein the one or more polymers further comprise one or more of natural, water-soluble polymers or resins selected from the group consisting of gums, guar gums, xanthan gums, starches, dextrans, proteins, celluloses, polysaccharides, dextrans, carrageenan, agar, alginates, gelatin, casein, pectin, soy bean, lignites, tannins, deoxyribonucleic acid and animal derivatives.

61. (proposed amendment) The system of claim 49, wherein the one or more polymers further comprise one or more of synthetic, water-soluble polymers selected from the group consisting of polyvinyl alcohol, hydroxypropyl cellulose, maleic anhydride copolymers, polyacrylates, polyimines, polyethylene glycols, polyvinyl pyrrolidone, hydroxyethyl cellulose, hydroxypropylmethylecellulose, cellulose ethers, polyquaternary amines, modified polyesters, sodium carboxymethyl cellulose, hydrogels, acrylamide co-polymers, sorbitan esters and derivatives, polymeric surfactants, hydrocolloids, cationic polymers, anionic/nonionic polymers, and coagulating agents.

62. (proposed amendment) The system of claim 49, wherein the one or more polymers further comprise a bioerodible polymer.

63. (proposed amendment) The system of claim 49, wherein the one or more polymers further comprise an absorbable polymer.

64. (proposed amendment) The system of claim 49, wherein the one or more polymers

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further comprise a controlled release polymer.

65. (proposed amendment) The system of claim 49, wherein the one or more polymers further comprise a high molecular weight, hydrophilic polymer.

66. (proposed amendment) The system of claim 49, wherein the one or more polymers further comprise a high molecular weight, resorbable polymer.

67. (proposed amendment) The system of claim 49, wherein the one or more polymers further comprise one or more hydrolytically and enzymatically degradable polymers.

68. (proposed amendment) The system of claim 49, wherein the one or more polymers further comprise at least one of carboxy methyl cellulose, a polyorthoester, and a lactide-glycolide co-polymer.

69. (proposed amendment) The system of claim 49, wherein the one or more polymers further comprise one or more of methyl cellulose and carboxy methyl cellulose.

70. (proposed amendment) The system of claim 49, wherein the one or more repellent chemicals comprise one or more alkaloids an alkaloid isolated from one or more members a member of the family Amaryllidaceae and the family Liliaceae.

71. (proposed amendment) The system of claim 49, wherein the one or more repellent chemicals comprise one or more alkaloids an alkaloid isolated from one or more members a member of the genus Narcissus.

72. (objected to) The system of claim 49, wherein the pluronic polymer is pluronic F-127.